

Amended Claims With Mark-ups to Show Changes Made

22. (Amended) A multi-stacker for an IC (integrated circuit) handler, comprising:

 a guide frame;

 a movement plate configured to move upward and downward within the guide frame; [and]

 a plurality of tray plates stacked on the movement plate and configured to move upward and downward within the guide frame, wherein each of the [movement] tray plates is configured to receive a tray holding a plurality of semiconductor devices; and

at least one stopper mechanism which is configured to prevent one or more tray plates from being lowered as the movement plate moves downward in the guide frame.

24. (Amended) The multi-stacker of claim [23] 22, wherein the at least one stopper mechanism comprises:

 a blocking protrusion configured to engage a side edge of one of the plurality of tray plates; and

 an actuator coupled to the blocking protrusion and configured to move the blocking protrusion into and out of a path of travel of the plurality of tray plates as the plurality of tray plates move upward and downward.

REMARKS

Claims 10-22 and 24-29 are pending. By this Amendment, claim 23 is cancelled without prejudice or disclaimer, and claims 22 and 24 are amended. Support for the claims can be found throughout the specification, including the original claims, and the drawings. Reconsideration in view of the above amendment and following remarks is respectfully requested.

Entry of the amended claims is proper under 37 C.F.R. §1.116 since the amendments: (1) place the application in condition for allowance for the reasons discussed herein; (2) do not raise any new issues requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution without incorporating additional subject matter; (3) satisfy a requirement of form asserted in the previous Office Action; and/or (4) place the application in better form for appeal if necessary. Because claim 22 is amended to incorporate the features of claim 23, no new issues are raised by the Amendment. Entry is thus requested.

The Office Action rejected claims 22-29 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner's comments have been addressed in amending independent claim 22. Accordingly, the rejection should be withdrawn.

The Office Action rejected claims 10-29 under 35 U.S.C. §102(e) as being anticipated by Nakamura, U.S. Patent No. 5,906,472. The rejection is respectfully traversed.

The Office Action stated that "Nakamura discloses in Fig. 13 a multi-stacker including guide frame 203 and movement plate 204." However, in Fig. 13, Nakamura discloses one example of a construction of a tray transfer means used with prior art IC testing apparatus. As shown in Fig. 13, and discussed in the "Background of the Invention" section of Nakamura, a stack of trays KST is stacked in a tray supporting frame 203 of an IC storage rack 201. An elevator 204 pushes the stack of trays KST upward, as shown in Fig. 13, to be received by tray transfer means 205 horizontally and movably disposed on a guide means 210.

However, with respect to independent claim 10, Fig. 13 of Nakamura fails to disclose or suggest a stacker frame, as well as a guide frame coupled to a bottom of the stacker frame. IC storage rack 201, shown in Fig. 13 of Nakamura and which includes tray supporting frame 203, is not coupled to a bottom of a stacker frame. Further, Fig. 13 of Nakamura fails to disclose or suggest a plurality of tray plates stacked on a movement plate and configured to move upward and downward within a guide frame and a stacker frame. Instead, in the Nakamura device, trays themselves are stacked on the elevator 204, and the trays are only movable within the guide frame 203. Accordingly, the rejection of independent claim 10 as being anticipated by Nakamura should be withdrawn.

Dependent claims 11-21 are allowable at least for the reasons discussed above with respect to independent claim 10, from which they depend, as well as for their added features. More particularly, with respect to dependent claim 11, Nakamura does not disclose or suggest at least one stopper mechanism which is configured to prevent one or more tray plates from

being lowered from the stacker frame into the guide frame. Fig. 13 of Nakamura discloses tray transfer means 205 with pivotable pawls 205A. The tray transfer means 205 is moved to a position over the IC storage rack 201 whereupon the elevator 204 is actuated to lift the trays KST stacked in the IC storage rack 201, so that the uppermost tray KST may be engaged and grasped by the pivotal pawls 205A of the tray transfer means 205. Each tray KST is formed with cut outs in its sides for receiving the pivotal pawls 205A. The pivotal pawls 205A hold a single tray KST in the tray transfer means 205 as it is moved horizontally along the guide means 210 before it is released into an intermediate tray receiver 207.

Because the Nakamura device does not have a stacker frame mounted over the guide frame 203, Nakamura necessarily fails to disclose a system with a stopper mechanism configured to prevent one or more tray plates from being lowered from the stacker frame into the guide frame. In addition, the pivotal pawls 205A do not prevent one or more trays from being lowered from a stacker frame into a guide frame, as recited in dependent claim 11, because only one tray can be held by the pivotable pawls.

Further, Fig. 13 of Nakamura does not disclose or suggest the features of the at least one stopper mechanism recited in dependent claim 12, in particular, a blocking protrusion and an actuator coupled to the blocking protrusion and attached to the stacker frame. With respect to dependent claim 13, Fig. 13 of Nakamura does not disclose or suggest an actuator configured to move the blocking protrusion into and out of a path of travel of the plurality of tray plates as the plurality of tray plates move from the stacker frame to the guide frame.

Furthermore, with respect to dependent claim 14, Fig. 13 of Nakamura does not disclose or suggest at least one stopper mechanism comprising first and second stopper mechanisms attached to opposite sides of the stacker frame, wherein the actuator of each stopper mechanism comprises a piston and a cylinder.

With respect to dependent claim 15, Fig. 13 of Nakamura does not disclose or suggest an elevator mechanism coupled to the movement plate and configured to move the movement plate upward and downward such that the tray plates stacked on the movement plate are moved from the guide frame into and out of the stacker frame. Fig. 13 of Nakamura also does not disclose or suggest the specifics of the elevator mechanism recited in dependent claim 16; the linear movement block recited in dependent claim 17; the support plate recited in dependent claim 18; the at least one support plate recited in dependent claim 19; the guide frame recited in dependent claim 20; and the sensor recited in dependent claim 21.

It is respectfully submitted that the dependent claims are also allowable for the various reasons explained above.

With respect to independent claim 22, Fig. 13 of Nakamura does not disclose or suggest at least one stopper mechanism which is configured to prevent one or more tray plates from being lowered as the movement plate moves downward in the guide frame. As explained above, the pivotable pawls 205A of the Nakamura device can only hold one tray. In contrast, the claimed device is configured to allow multiple tray plates to extend above a guide frame and into a stacker frame. The device recited in claim 22 is also configured so that the stopper mechanism

can hold multiple tray plates in the stacker frame, above the guide frame. Because Nakamura fails to disclose or suggest these features, the rejection of independent claim 22 should be withdrawn.

Dependent claims 24-29 are allowable at least for the reasons discussed above with respect to independent claim 22, from which they depend, as well as for their added features. More particularly, Fig. 13 of Nakamura does not disclose or suggest the at least one stopper mechanism as recited in dependent claim 24; the elevator mechanism as recited in dependent claim 25; the details of the elevator mechanism as recited in dependent claim 26; the support plate as recited in dependent claim 27; the at least one support plate as recited in dependent claim 28; and the sensor as recited in dependent claim 29. It is respectfully submitted that the dependent claims are also allowable for these additional reasons.

For all the above reasons, withdrawal of the rejection of claims 10-22 and 24-29 is respectfully requested.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Carol L. Druzbick, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,

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concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and
please credit any excess fees to such deposit account.

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